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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/735,267

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Sompong P. Olarig

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EXAMINER

MYERS, PAUL R

ART UNIT

PAPER NUMBER

2189

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/735,267

Applicant(s)

OLARIG ET AL.

Examiner

Paul R. Myers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ananthan et al PN 5,634,138 in view of Gehman et al PN 6,260,093.

In regards to claims 1 and 13: Ananthan et al teaches a computer system (Figure 1) comprising: a first computer bus (30) connected to a first plurality of bus devices (16, 20, 22, 24 and 27); a second computer bus (50 figures 2 and 3) connected to a second plurality of bus devices (70's and 60 grouped as 55); a bridge (57) coupling together said first computer bus (30) and said second computer bus (50); a first multicast bus (30) connecting to said first plurality of bus devices (16, 20, 22, 24 and 27) and a second multicast bus (50) connecting to said second plurality of bus devices (55); wherein one of the plurality of bus devices (60) is capable of transmitting a multicast to at least two of said second plurality of bus devices, which are identified by a signal transmitted on said first and second multicast bus (The PCI special cycle coherency flag 72). Ananthan et al teaches the master 60 only on the second bus. Ananthan et al does not teach the multicast master being on a different bus. Gehman et teach how a master on a first bus can gain access to a target on a second bus by translating the signals across a bus bridge. It would have been obvious to a person of ordinary skill in the art at the time of the invention to

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allow the master to be on a different bus because this would have allowed greater system flexibility.

3. Claims 2-7, 14 and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ananthan et al PN 5,634,138 in view of Gehman et al PN 6,260,093 as applied to claim 1 above, and further in view of McMinn PN 6,097,403.

In regards to claims 2-3, 5, 16: Ananthan et al in view of Gehman teaches the use of specialized commands to initiate multicast transactions across a bus bridge. Ananthan et al does not teach the use of sideband signals or the signals being transmitted across the bridge. McMinn teaches specialized commands or alternatively sideband signals may be conveyed upon a first bus to a bridge and the bus bridge upon receiving the specialized commands relaying them to the second bus (Column 5 lines 16-48). It would have been obvious to a person of ordinary skill in the art to use sideband signals instead of a specialized command because this would have allowed for faster multicast setup by eliminating the setup cycle.

In regards to claim 4: Ananthan et al teaches at least two second devices being identified in the multicast signals.

In regards to claim 6, 20-21: Ananthan et al teaches the bridge being a PCI to PCI bridge.

In regards to claim 7: Ananthan et al teaches the bridge being a PCI to Host bridge.

In regards to claim 14: Ananthan et al teaches the Multicast bus and PCI bus being multiplexed so that when the special PCI cycle that sets up the multicast the bus is the Multicast bus. When the data is being transmitted the bus is an ordinary PCI bus. McMinn et al

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teaches the use of sideband signals instead of special commands as taught by Ananthan et al. when using sideband signals instead of the special commands the bus would be Non-Multiplexed with the sideband signals being one bus and the PCI bus being the other.

In regards to claim 17: Ananthan et al transmits the data on the bus according to the protocol of the bus.

In regards to claim 18-19: McMinn et al teaches the sideband signals.

4. Claims 8-12, 15 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ananthan et al PN 5,634,138 in view of Gehman et al PN 6,260,093 and McMinn PN 6,097,403 as applied to claim 7 above, and further in view of PCI System Architecture.

In regards to claims 8 and 22-24: Ananthan et al does not teach the system architecture including a second PCI to Host bridge. PCI System Architecture teaches two PCI to Host bridges Bridge A and Bridge B as a standard system architecture. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use any of the system structures in the PCI System Architecture because this would have prevented the system from being limited to only simple systems.

In regards to claims 9-12: Bridges are inherently bidirectional. McMinn teaches transmitting sideband signals across a bridge. MPEP 2144.04 VI B indicates duplication of parts is not patentable. It would have been obvious to a person of ordinary skill in the art at the time of the invention to allow multiple bridge sideband signal translation because this would have allowed for greater system flexibility.

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In regards to claim 15: Ananthan et al teaches the Multicast bus and PCI bus being multiplexed so that the when the special PCI cycle that sets up the multicast the bus is the Multicast bus. When the data is being transmitted the bus is an ordinary PCI bus. McMinn et al teaches the use of sideband signals instead of special commands as taught by Ananthan et al. when using sideband signals instead of the special commands the bus would be Non-Multiplexed with the sideband signals being one bus and the PCI bus being the other.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Koh et al PN 6,567,871, Gehman et al PN 6,260,093, Eskandari et al PN 6,230,228, Tanaka et al PN 5,933,613, and Narad et al PN 5,367,695 and PN 5,572,734 all teach how a master on one bus would establish connection with slaves on a second bus.

Narad et al PN 5,572,734 teaches transmitting data from a first bus to a third bus across a second.

Nannetti et al PN 6,122,609, Tran et al PN 5,511,224, MacInnis PN 5,655,112, Brady et al 5,511,165 and Shah et al all teach multicasting data to multiple targets.

Mehdi EP 0 628 919 A1 teaches the advantage of multiplexed and non-multiplexed buses.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul R. Myers whose telephone number is 703 305 9656. The examiner can normally be reached on Mon-Thur 6:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 703 305 4815. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305 3900.



PAUL R. MYERS
PRIMARY EXAMINER

PRM

September 7, 2003